

Appl. No.: 10/718,356
Amdt. Dated: October 19, 2004
Reply to Office Action of: October 12, 2004

The listing of claims will replace all prior versions, and listings, of claims in the application (deletions struck through, insertions underlined):

Listing of Claims:

1. (Currently Amended) A coated optical material suitable for use as an optical path material in lasers operating below 250 nm comprising:
 - a shaped optical monocrystal having an entry face and an exit face for laser radiation entering and exiting said crystal, and
 - a coating on at least the exit face of said monocrystal, said coating selected from the group consisting of ~~SiN~~, ~~MgF₂~~, MgF₂ doped fused silica and fluorine doped fused silica;

wherein when the coating is MgF₂ doped fused silica and the MgF₂ content of said MgF₂ doped fused silica is in the range of 0.2% to 4 % by weight; and

wherein when the coating is fluorine doped fused silica and the fluorine content of said fluorine doped fused silica is in the range of 0.2 to 4 % by weight.
2. (Original) The coated optical material according to claim 1, wherein said monocrystal is of formula MF₂, wherein M is a metal selected from the group consisting of beryllium, magnesium, calcium, strontium and barium, and mixtures thereof, and F is fluorine.
3. Cancelled
4. (Original) The coated optical material according to claim 1, wherein the thickness of the coating is in the range of 20 to 300 nm.
5. (Original) The coated optical material according to claim 1, wherein the thickness of the coating is in the range of 20 to 150 nm.

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6. (Original) The coated optical material 1 according to claim 1, wherein the thickness of the coating is in the range of 20 to 100 nm.

7. Cancelled

8. Cancelled

9. Cancelled

10. (Original) The coated optical material according to claim 1, wherein the monocrystal is CaF₂ and the coating is MgF₂ doped fused silica.

11. (Original) The coated optical material according to claim 1, wherein the monocrystal is CaF₂ and the coating is fluorine doped fused silica.

12. (Currently Amended) A coated optical material suitable for use as an optical path material in lasers operating below 200 nm comprising:

a shaped optical monocrystal having an entry face and an exit face for laser radiation entering and exiting said crystal, and

a coating on at least the exit face of said monocrystal, said coating selected from the group consisting of inorganic materials transmissive to electromagnetic radiation below 200 nm wavelength MgF₂ doped fused silica wherein the MgF₂ content of said MgF₂ doped fused silica is in the range of 0.2 to 4 % by weight, and fluorine doped fused silica wherein the fluorine content of said fluorine doped fused silica is in the range of 0.2 to 4 % by weight.

13. (Original) The coated optical material according to claim 12, wherein said monocrystal is of formula MF₂, wherein M is a metal selected from the group consisting of beryllium, magnesium, calcium, strontium and barium, and mixtures thereof, and F is fluorine.

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14. Cancelled

15. Cancelled

16. (Original) The coated optical material according to claim 12, wherein the thickness of the coating is in the range of 20 to 300 nm.

17. (Original) The coated optical material according to claim 12, wherein the thickness of the coating is in the range of 20 to 150 nm.

18. (Original) The coated optical material I according to claim 12, wherein the thickness of the coating is in the range of 20 to 100 nm.

19. Cancelled

20. Cancelled

21. (New) The coated optical material according to claim 1, wherein the monocrystal is CaF₂ and the coating is MgF₂ doped fused silica.

22. (New) The coated optical material according to claim 1, wherein the monocrystal is CaF₂ and the coating is fluorine doped fused silica.